

What is claimed is:

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1. An apparatus for displaying image data direction of a terminal, comprising:

5 a codec for performing converting operation between analogue voice data and digital voice data;

a camera module for performing converting operation between analogue image data and digital image data;

a direction sensor for detecting direction of a photographing object;

10 an A/D converter for converting analogue direction data detected by the direction sensor into digital direction data;

a voice/image communication apparatus for multiplexing or demultiplexing the converted voice, image and direction data;

5 a LCD module for displaying image and direction data multiplexed from the voice voice/image communication apparatus; and

a control unit for controlling each unit generally.

20 2. The apparatus of claim 1, wherein the direction sensor detects a direction of a photographing object, which is identical with a photographing direction of a camera.

3. The apparatus of claim 1, wherein the a voice/image communication apparatus comprises:

25 a voice encoding processing unit for encoding the voice data inputted from the codec or converting the voice data transmitted from a multiplexing processing

unit into data for displaying in a speaker in opposition;

an image encoding processing unit for encoding the image data inputted from a camera module or converting the image data transmitted from a multiplexing processing unit into data for displaying on an LCD in opposition;

5 a direction displaying processing unit for encoding the direction data inputted from the A/D converter or converting the direction data transmitted from a multiplexing processing unit into data for displaying on an LCD in opposition; and

the multiplexing processing unit for multiplexing processing unit for multiplexing the voice, image and direction data or demultiplexing to display the multiplexed image and direction data on an LCD.

4. The apparatus of claim 3, wherein the direction displaying processing unit calculates direction and angle of a photographing object on the basis of direct north and south and encodes the data of calculated direction and angle by formatting the above data as a binary value.

5. The apparatus of claim 3, wherein the direction displaying processing unit is further set to have a direction displaying area at one side of the screen.

6. The apparatus of claim 3, wherein the direction displaying processing unit is further set to display a direction on the screen in the form of on-screen.

7. The apparatus of claim 3, wherein the direction displaying

processing unit is further set to display direction on the screen in the form of a compass.

8. The apparatus of claim 3, wherein the multiplexing processing unit
5 multiplexes encoded packet data by receiving the data from the voice encoding processing unit, image encoding processing unit and direction displaying processing unit and inputs the data to the image frame by forming a flag and header to distinguish the image frame.

10 9. The apparatus of claim 3, wherein the multiplexing processing unit is further set to form null data if no data to transmit to a terminal exists.

10. A method for displaying image data direction of a terminal, comprising the steps of:

15 demultiplexing an image frame received from a multiplexing processing unit and separating the frame into voice and direction data; and

displaying the separated direction and image data on an LCD according to control of a direction displaying processing unit.

20 11. The method of claim 10, wherein the multiplexing processing unit checks the received image frame and forms null data if the data are not normal in the separating step.

25 12. The method of claim 10, wherein the displaying step comprises the steps of:

separating, detecting the data demultiplexed image and direction data and transmitting to an image encoding processing unit and the direction displaying processing unit;

checking the transmitted demultiplexed data whether a direction displaying mode is set through the direction displaying processing unit;

determining position and method in displaying the direction and image data on the LCD according to control of the direction displaying processing unit in case the direction displaying mode is set; and

displaying the direction and image data on the LCD in the determined position and displaying form.

13. The method of claim 12, wherein the LCD displays only image data read from the LCD module if the direction displaying mode is not set in the direction displaying processing unit.

14. The method of claim 12, wherein the direction displaying processing unit is further set to have a direction displaying area at one side of the screen.

15. The method of claim 12, wherein the direction displaying processing unit is further set to display direction on the screen in the form of on-screen.

16. The method of claim 12, wherein the direction displaying processing unit is further set to display direction on the screen in the form of a

compass.

17. The method of claim 12, wherein the displaying step is also adapted in case the transmitted image frame is a stop image.

18. The method of claim 12, wherein the LCD is further set to display time and date information together with the direction displaying method.

19. A method for displaying image data direction of a terminal, comprising the steps of:

formatting a detected analogue direction data into a binary value of a certain bite and encoding the value;

multiplexing the encoded direction data together with the image and voice data and forming an image frame; and

transmitting the formed image frame into a base station.

20. The method of claim 19, wherein the multiplexing step comprises the steps of:

receiving the packetized voice data through a voice encoding processing unit;

receiving the packetized image data through an image encoding processing unit;

multiplexing the transmitted voice and image data and the encoded direction data as an image frame; and

generating and inserting flag and header information in the multiplexed

21. The method of claim 19, wherein a direction and angle of a photographing object is calculated on the basis of direct north and south direction and by formatting the calculated direction and angle data, the data is encoded into an image packet in the step of formatting the direction data.

23. The method of claim 19, wherein the multiplexing processing unit forms null data if data to be transmitted to the base station do not exist.